

What is claimed is:

- 1) Seed of soybean cultivar S52-U3 having been deposited under ATCC Accession No: _____.
- 5 2) A soybean plant, or parts thereof, of cultivar S52-U3, seed of said cultivar having been deposited under ATCC Accession No: _____.
- 10 3) Pollen of the plant of claim 2.
- 4) An ovule of the plant of claim 2.
- 15 5) A soybean plant, or parts thereof, having all the physiological and morphological characteristics of a plant according to claim 2.
- 20 6) A male sterile soybean plant, or parts thereof, otherwise having all the physiological and morphological characteristics of a plant according to claim 2.
- 7) A soybean plant, or parts thereof, having essentially all the physiological and morphological characteristics of a plant according to claim 2, and further comprising one or more single gene transferred traits.
- 25 8) Seeds of a plant according to claim 7.
- 9) A soybean plant, or parts thereof, according to claim 2, wherein the plant or parts thereof have been transformed so that its genetic material contains one or more transgenes operably linked to one or more regulatory elements.
- 10) A soybean plant according to claim 9, wherein said transgene comprises a gene conferring upon said soybean plant tolerance to a herbicide.

11) A soybean plant according to claim 10, wherein said herbicide is glyphosate, glufosinate, a sulfonylurea or an imidazolinone herbicide, or a protoporphyrinogen oxidase inhibitor.

12) A soybean plant according to claim 9, wherein said transgene comprises a gene 5 conferring upon said soybean plant insect resistance, disease resistance, nematode resistance or virus resistance.

13) A soybean plant according to claim 12, wherein said gene conferring upon said soybean plant insect resistance comprises a VIP3 gene.

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14) A tissue culture of regenerable cells of a soybean plant according to claim 2, wherein the tissue regenerates plants capable of expressing all the morphological and physiological characteristics of a plant according to claim 2.

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15) A soybean plant regenerated from the tissue culture of claim 14, capable of expressing all the morphological and physiological characteristics of cultivar S52-U3, representative seed of said cultivar having been deposited under ATCC Accession No:_____.

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16) A tissue culture according to claim 14, the cells or protoplasts of the tissue culture being from a tissue selected from the group comprising of leaves, pollen, embryos, roots, flowers, seeds, pods, and stems.

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17) A method for producing a soybean seed comprising crossing a first parent soybean plant with a second parent soybean plant and harvesting the resultant first generation soybean seed, wherein said first or second parent soybean plant is a soybean plant according to claim 2 or a soybean plant having all the physiological and morphological characteristics of a plant according to claim 2.

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18) A method according to claim 17, wherein said first parent soybean plant is different from said second parent soybean plant, wherein said resultant seed is a first generation (F1) hybrid soybean seed.

19) A method according to claim 17, wherein said soybean plant of cultivar S52-U3, or said soybean plant having all the physiological and morphological characteristics of a plant of cultivar S52-U3, is the female parent.

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20) A method according to claim 17, wherein said soybean plant of cultivar S52-U3, or said soybean plant having all the physiological and morphological characteristics of a plant of cultivar S52-U3, is the male parent.

10 21) An F1 hybrid soybean seed produced by the method of claim 18.

22) An F1 hybrid soybean plant, or parts thereof, grown from the seed of claim 21.

15 23) A method for producing soybean seed comprising crossing a first parent soybean plant with a second parent soybean plant and harvesting the resultant first generation soybean seed, wherein said first or second parent soybean plant is a soybean plant according to claim 7.

20 24) A method according to claim 23, wherein said first parent soybean plant is different from said second parent soybean plant, wherein said resultant seed is a first generation (F1) hybrid soybean seed.

25 25) An F1 hybrid soybean seed produced by the method of claim 23.

26) An F1 hybrid soybean plant, or parts thereof, grown from the seed of claim 25.

27) A method to produce a hybrid soybean seed comprising the steps of:

a) planting the seed of soybean cultivar S52-U3, seed of said cultivar having been deposited under ATCC Accession No:_____, or seeds of a soybean plant having essentially all the physiological and morphological characteristics of a plant of cultivar S52-U3, and seeds of another soybean cultivar;

- b) cultivating soybean plants resulting from said seeds until said plants bear flowers;
- c) emasculating the male flowers of the plants of either soybean cultivar;
- d) inducing cross pollination to occur between said soybean cultivars; and
- e) harvesting seeds produced on said emasculated plants of the cultivar.

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28) A first generation (F1) hybrid soybean plant produced by growing said hybrid soybean seed of claim 27.

10 29) A method for developing a soybean plant in a soybean breeding program using plant breeding techniques, which include employing a soybean plant, or its parts thereof, as a source of breeding material, comprising: using the soybean plant, or its parts thereof, of claim 2 as a source of breeding material.

15 30) The soybean breeding program of claim 31, wherein plant breeding techniques are selected from the group of: recurrent selection, backcrossing, pedigree breeding, restriction fragment length polymorphism enhanced selection, genetic marker enhanced selection, and transformation.

20 31) A soybean plant according to claim 7, wherein said one or more single gene transferred traits comprise a gene which is first introduced by transgenic methods into a soybean cultivar different from said soybean cultivar S52-U3 and then introgressed into said soybean cultivar S52-U3.

25 32) A method for producing cultivar S52-U3, representative seed of which have been deposited under ATCC Accession No. _____, comprising:

- a) planting a collection of seed comprising seed of a hybrid, one of whose parents is cultivar S52-U3, said collection also comprising seed of said cultivar;
- b) growing plants from said collection of seed;
- c) identifying inbred parent plants;

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- d) controlling pollination in a manner which preserves the homozygosity of said inbred parent plant; and

e) harvesting the resultant seed.

33) A S52-U3-derived soybean plant, or parts thereof, produced by the method of claim 27, said S52-U3-derived soybean plant expressing a combination of at least two S52-U3 traits selected from the group consisting of: high yield potential, resistance to Soybean Cyst Nematode, moderate resistance to Southern Stem Canker, a Relative Maturity rating of 5.2 (early MG V Maturity), adaptation to the Mid-South, the Southeast, and to eastern Kansas/southwestern Missouri, and excellent emergence and lodging resistance.

10 34) The method of claim 33, further comprising:

15 a) crossing said S52-U3-derived soybean plant with itself or another soybean plant to yield additional S52-U3-derived progeny soybean seed;

b) growing said progeny soybean seed of step (a) under plant growth conditions, to yield additional S52-U3-derived soybean plants; and

c) repeating the crossing and growing steps of (a) and (b) from 0 to 7 times to generate further S52-U3-derived soybean plants.

35) The further S52-U3-derived soybean plant, or parts thereof, of claim 33, wherein said further S52-U3-derived soybean plant, or parts thereof, express a combination of at least two S52-U3 traits selected from the group consisting of: high yield potential, resistance to Soybean Cyst Nematode, moderate resistance to Southern Stem Canker, a Relative Maturity rating of 5.2 (early MG V Maturity), adaptation to the Mid-South, the Southeast, and to eastern Kansas/southwestern Missouri, and excellent emergence and lodging resistance.